

TECHNICAL DATA SHEET

Product Name: CP Emulsifier Sunflower

Raw Material Name: Instant cold-process emulsifying powder based on sunflower wax and sodium polyacrylate

INCI Name: Helianthus Annuus (Sunflower) Seed Wax, Sodium Polyacrylate

CAS: 1286686-34-7, 9003-04-7

Chemical Classification: Mixture of a vegetable wax and a synthetic anionic polymer.

Functional Category: Cold-process emulsifying-thickening system; surfactant - emulsifier; emulsion stabilizer; rheology modifier.

Chemical Nature and Structure: CP Emulsifier Sunflower is a combination of Helianthus Annuus (Sunflower) Seed Wax and Sodium Polyacrylate. Sunflower wax is a solid lipid component of plant origin that contributes to the structure, consistency and emollience of the formulation. Sodium Polyacrylate is an anionic polymer obtained by polymerization of acrylic acid followed by neutralization with a sodium base. Upon contact with the aqueous phase, the polymer hydrates and develops viscosity, enabling the formation of a stable dispersion system. The combination of the lipid component and polymeric thickener provides a functional system that allows emulsions to be prepared by a cold process without conventional heating of the aqueous and oil phases.

Description: CP Emulsifier Sunflower is an instant emulsifying powder intended for simple preparation of cold-process emulsions. The raw material is added directly to water and dispersed with mixing until a smooth and viscous system is formed. The oil phase is then added gradually while mixing is continued until a homogeneous emulsion is obtained. The process does not require heating, which shortens production time and enables easier incorporation of thermolabile active ingredients. At vegetable oil levels of up to approximately 10%, the system may form stable creams without an additional emulsifier. In formulations containing more than approximately 10% oil phase, the use of an appropriate additional emulsifier and stability testing of the final system are recommended. CP Emulsifier Sunflower may also be used as a viscosity modifier in conventional emulsions prepared by a hot process. The raw material is supplied as a white to light beige powder with a mild fatty odor. According to the specification, the melting point is approximately 65-80 °C. The raw material is not soluble in water but disperses in it.

Mechanism of Action: CP Emulsifier Sunflower acts through the combined structural properties of sunflower wax and the rheological properties of Sodium Polyacrylate. After dispersion in water, Sodium Polyacrylate hydrates and develops a polymer network that

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increases the viscosity of the continuous aqueous phase and limits the movement of dispersed oil droplets. In this way, it contributes to emulsion stability and reduces the tendency toward phase separation. Sunflower wax contributes to the structure of the lipid phase, consistency and sensory profile of the finished product. The combined action of these two components enables rapid formation of creamy emulsions at room temperature and reduces the need for a conventional heating process. In formulations containing up to approximately 10% oil phase, this system may be sufficient to stabilize the emulsion without an additional emulsifier, while formulations with higher oil content require additional emulsifying support and practical stability testing.

Benefits:

- **Cold-process emulsions:** enables rapid formation of stable emulsions without heating.
- **Rheology and stability:** simultaneously increases viscosity and contributes to emulsion stability.
- **Thermolabile ingredients:** enables easier incorporation of active ingredients sensitive to temperature.
- **Lower-oil emulsions:** at oil-phase levels of up to approximately 10%, it may enable formation of a stable system without an additional emulsifier.
- **More efficient processing:** contributes to a smooth, creamy texture and shortens the manufacturing process.

Usage: CP Emulsifier Sunflower is added to water at a concentration of 5-10% and mixed with a suitable mixer until a homogeneous and smooth dispersion is obtained. Water at room temperature may be used, as well as warm or hot water, depending on the manufacturing process. After a homogeneous aqueous dispersion has formed, up to approximately 10% vegetable oils are gradually added while mixing is continued until a stable emulsion is formed. Active ingredients, fragrance compositions and other formulation components are added according to their temperature stability and compatibility. For formulations containing more than approximately 10% oil phase, the use of an appropriate additional emulsifier and stability testing of the finished system are recommended. The raw material may also be used as a rheology modifier in emulsions prepared by a hot process. For external use only.

Applications: Used for the preparation of creams, lotions, serums, color cosmetics, hair-care products and products intended for skin care during sun exposure. Use in sun-care products refers to the formulation function of the raw material and does not imply UV-filter or SPF activity.

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Source Materials and Manufacturing: The main raw-material bases are sunflower wax and Sodium Polyacrylate. Sunflower wax may be industrially obtained from sunflower oil through processes used to separate the wax fraction, while Sodium Polyacrylate is produced by polymerization and neutralization of acrylic-acid derivatives. The exact manufacturing process of the commercial blend depends on the manufacturer's technology.

Storage: Store in tightly closed packaging, in a cool and dry place, protected from direct sunlight. According to the existing certificate, after storage for longer than 24 months, quality testing before use is recommended.

Animal Testing: The raw material has not been tested on animals.

GMO: Non-GMO.

Vegan: Contains no animal-derived components.

Country of Origin: USA

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